

10/797,550

663-004us

**REMARKS**

This paper is responsive to an Official Action that issued in this case on February 13, 2006. In that Action, the Office:

- Finally rejected claims 43-46, 70, 71, and 74 under 35 USC §102 as being anticipated by U.S. Pat. No. 3,667,679 to Wiesenberg;
- Objected to claims 62-69, 72, and 73 as being dependent upon a rejected base claim; and
- Allowed claims 75-93.

Applicant's attorney wishes to thank the Examiner for the courtesy of a brief telephonic interview (February 16, 2006) to discuss the case. The substance of the interview is repeated here for the Examiner's consideration. No claim amendments are proposed.

In the Action, the Examiner alleged that Figure 1 of Wiesenberg shows:

an annular gas cavity 15 receiving a flow of gas from the gas aperture, an annular gas nozzle receiving the flow of gas from the gas cavity, wherein a bulk of the flow of gas flows in a radial direction through the gas aperture, a bulk of the flow of gas flows in an axial direction through the gas nozzle.

In Figure 1, which the Examiner kindly appended to the Action, the Examiner identified a large unnumbered outlet as the "gas nozzle" and an unnumbered region directly downstream of resonator 12 as the "gas aperture." With due respect, this characterization is inaccurate.

The following discussion references the description of Figure 1 provided in Wiesenberg at col. 2, lines 20 - 45.

The atomizer depicted in Figure 1 has a gas inlet conduit 10 that tapers to form a nozzle 11 from which the gas flows at high velocity. The gas flows directly into groove 12, which functions as a resonator. According to the Wiesenberg, due to the dimensions of the groove 12, the gas resonates and sonic vibrations having a frequency of 3000 Hz or more are imparted to the gas as it passes into the zone 15.

Meanwhile, the spray of liquid issuing from liquid nozzle 7 is delivered to a mixing zone that is defined between the zone 15 and nozzle 7. The cone of atomized liquid is exposed to sonic vibrations that persist in the gas in the mixing zone. The sonic vibrations

10/797,550

663-004us

promote mixing. The mixed atomized liquid and gas leaves the atomizer through the large unnumbered opening.

So, the gas flows through annular inlet conduit 10 into a relatively narrower, unnumbered annular region, and then to a relatively wider unnumbered annular region that is directly upstream of gas nozzle 11. The gas then flows through the gas nozzle 11 and into the resonator that is defined by the groove 12. Notice that there is no change in the direction of the gas as it flows all the way from the inlet conduit 10 to the resonator 12. This does not meet the limitations of claim 43, which requires that:

<p>a bulk of said flow of gas flows in a radial direction through said gas aperture; and</p> <p>a bulk of said flow of gas flows in an axial direction through said gas nozzle.</p>
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The outlet that the Examiner identifies as the "gas nozzle" is actually the combined liquid/gas outlet from the atomizer. It has no function other than to permit the fluids to leave the atomizer.

According to Wiesenberg, the gas nozzle is the narrowed region identified by the call out "11," which is located upstream of the resonator 12. This is, indeed, as it must be. The purpose of the nozzle is to impart a supersonic speed to the gas (see, e.g., col. 1, lines 61-66) so that when the gas slams into the resonator 12, sonic vibrations (shock waves) are created.

In this regard, notice that the combined gas/liquid outlet that the Examiner identifies as the "gas nozzle" is downstream of the groove 12 that functions as the resonator. If the gas nozzle were downstream of the resonator, sonic vibrations would not be created in the gas and, hence, the atomizer would not properly operate.

Furthermore, note that the combined outlet is significantly *wider* than either the liquid nozzle 7 or the region 15 (that the Examiner identifies as the gas cavity). Certainly, the flow through this relatively widened outlet is not accelerated relative to either the flow of the atomized liquid or the gas passing through region 15.

Since Wiesenberg does not teach or suggest what is recited in claim 43, that claim is allowable over Wiesenberg. As such, the rejection of claim 43 should be withdrawn.

10/797,550

663-004us

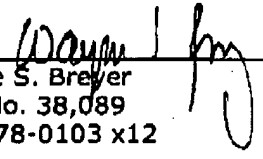
Since claims 44-46, 70, 71, and 74 are ultimately dependent on claim 43, these claims are allowable over Wiesenberger as well.

**Conclusion**

It is believed that claims 43-46 and 62-93 are in condition for allowance. A notice to that effect is solicited.

If any issues remain prior to allowance of the case, the Examiner is requested to telephone the undersigned for prompt resolution.

Respectfully,

By   
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17 February 2006

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